

Designing an HR Chatbot to Support Human Resource Management

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ABSTRACT

The significance of human resource (HR) management lies in its being able to manage human resources for maximum efficiency and being able to plan the operations of the organization and lead it to success. The objective of this article is to present the design of an HR chatbot that could improve the human resource management, particularly the welfare concerns, at Panviman Chiang Mai Spa Resort. The research method is to collect the data by means of doing individual interviews with the head of the human resource department and the deputy head of the human resource department. In the case study, an HR chatbot application was designed to answer questions and provide advice on employee welfare. Focusing on planning for human capital or corporate employees, a chatbot is a technological innovation that uses artificial intelligence or AI to replace the use of human resources and help reduce costs within the organization. Moreover, chatbots can work 24/7 using an automatic process. The implication of this study will be an important variable that leads to the promotion of effective human resource management, the reduction of cost in the organization, and innovations in hotel and tourism businesses.

Keywords: Chatbot; Human Resource Management; Welfare; Hotel business

1. INTRODUCTION

Presently, tourism and service industries have incurred a major role in further developing the economy of Thailand. These industries, creating goods and services in response to tourist demands, generate significant income for the country (Saranya Warakunwit, 2008). Among these tourism and service industries, the hotel industry has flourished continuously and tremendously. One positive economic effect of the hotel industry growth is the creation of or support for blue-collar jobs, such as taxi drivers, gift shopkeepers, and farmers (delivering agricultural produce to hotels). As for the jobs done within the hotel staff organization, generally, the ratio of hotel staff to guest per room is 1.5 or 2:1. Thus, if there are 200 guestrooms in a hotel, there should be around 300 hotel employees in order to be able to provide services in various parts of the hotel thoroughly and efficiently (Nongnuch Srithanaanan, 2010). Clearly, human capital is essential and indispensable to the hotel industry. According to Montakan Landcaster (2005), manpower in hotel businesses is considered the best value factor among manufacturing and services because human capital is also in charge of production in the future. Thus, supporting the staff with good personnel administration is not an option but indeed necessary. Human resource departments should consider offering supportive welfare or benefits, rewarding good or outstanding work, providing motivation, and retaining or regularizing personnel as are the factors to develop the business effectively (Chai Taweeseenwong, 2017).

Research {roblem

A research problem originated from a selected case study site in this article. The human resource (HR) department of Panviman Chiang Mai Spa Resort has specifically focused on the welfare concerns of their current and prospect staff. The HR department believes this particularly employee interest is crucial in their overall hotel business success. Moreover, they consider this factor as a driving force and motivator for good employee performance. After a pre-interview work at the research site, three categories of frequently asked questions (FAQ) were found:

- On accommodation: Is there staff accommodation in this hotel? How much does it cost per month? What facilities are provided in the room? How many people can stay per room?
- On welfare: What hospital does the social welfare? What documents are required for claiming medical expenses? Does the hotel have any other benefits?
- On leave: How many days off do employees have per week? How many days leave per employee per year is allowed?

Overall, these questions have led the researchers to design a chatbot program that answers questions and provide advice on employee welfare.

Research Objectives

The objective of this article is to present the design of an HR chatbot that could improve the human resource management, particularly the welfare concerns, at Panviman Chiang Mai Spa Resort.

2. BACKGROUND AND LITERATURE REVIEW

A. Models of chatbots

Chatbots can be divided into two models: retrieval-based and generative (Britz, 2016). First, retrieval-based models operate with pre-built conditions for user interaction by choosing the appropriate interaction or conversation for the context. A retrieval-based model will not create new conversations, but will only select conversations from the existing formats. Second, generative models work without creating conditions for user interaction but will create a new dialogue. The generative models work by using machine translation techniques, which are the interpretation of the input to output in the generative models. Researchers have started to use deep learning technology, which is under machine learning technology than to develop chatbot's capabilities. Overall, a chatbot learns from past chat styles in order to train itself to be more effective. Both types of chatbots have advantages and disadvantages. For example, retrieval-based models cannot handle cases that have never seen before or have not been pre-determined in advance. Whereas, generative models are more intelligent and are more similar to humans but this model is difficult to practice and requires a lot of information to practice (Britz, 2016).

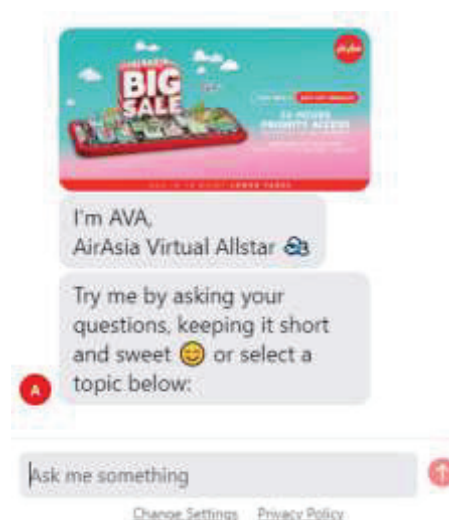
B. The importance of chatbots

Chatbots have become very popular nowadays, because organizations are starting to develop their own chatbots. According to an Oracle survey of more than 800 decision makers in France, the Netherlands, South Africa and the UK, more than 80% of respondents is already using chatbots or are planning to use chatbots by 2020 (Business Insider Intelligence, 2016). Different business organizations are adopting automation technology such as chatbots for their marketing, sales and customer services. In the same survey, 42% of respondents believe that automation technology can increase better customer experience. Moreover, 48% are currently using automation technology, and 40% are planning to use it by 2020 (Business Insider intelligence, 2016). Chatbots, when applied to an organization, can benefit a business in many ways. For example, first, chatbots can enhance customer services. A chatbot is able to work 24 hours a day without the need for breaks or even sick leave and is able to perform with high efficiency. Second, by using chatbots, organizations could reduce employee expenses such as medical expenses or employee benefits.

C. Examples of chatbot applications

1 .A chatbot named AVA was implemented for customer support in AirAsia web site and mobile application.

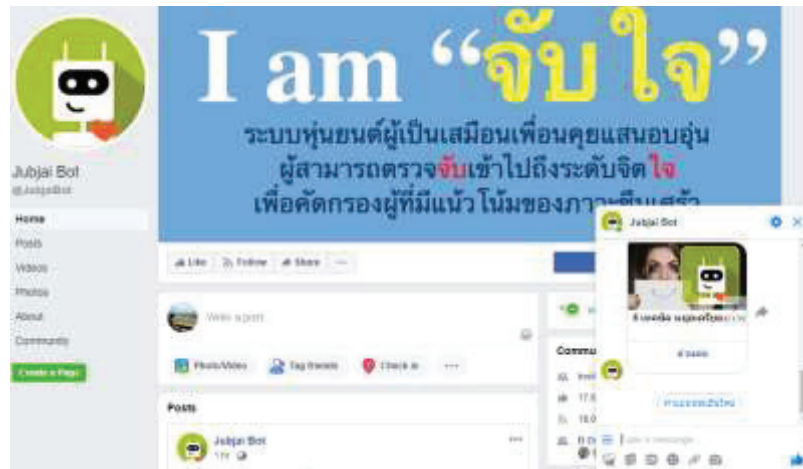
Figure 1. AVA



Source :[https://:support.airasia.com/s/?language=en_GB](https://support.airasia.com/s/?language=en_GB) 29 October 2019(

2 .A chatbot named Jubjai was developed for Facebook Messenger application for assessing depression symptoms and warning signs.

Figure 2. Jubjai Bot



Source :<https://www.facebook.com/JubjaiBot/> /29 October 2019(

3 .A chatbot was created for SCB Connect in LINE application for answering customer questions.

Figure 3. Bot of SCB Connect



Source: SCB Connect in LINE application

D. The human resource management

Pichit Thepwan)2011 (defines human resource management as a policy and operational procedure that procures, utilizes, and maintains human resources towards the success of the organization .This meaning is related to the concept of Prachaya Klaphachan and Phota Butsuthiwong)2007(who defined that human resource management is a decision-making process and an action that involves personnel from all levels in an organization .In order to be the most effective, a human resource department should be able to create maximum success for the organization .Moreover, Banphot Wirunrat)2009(defined the meaning of human resource management in the sense that the employee is similar to a valuable resource rather than the workers per se .Thus, employers must regard employees as assets to the company, the most important cohorts of the organization.

E. The ideal labor relations characteristics

The fundamental factor in working in cooperation in an organization lies in the affective indicators—the employers and employees altogether having a good attitude, feeling, understanding and trust in the actions of each other .If there are conflicts, claims, or needs from the part of the employees, the employer should follow a process for resolving conflicts with understanding or acceptance)Wiraphan Kaewrat, 2017.(

F. Employee welfare

Employee welfare is an action done by employers, employees, or the government that aims to enable employees to enjoy their well-being in the holistic sense :physically and mentally, with good health and safety in the workplace and overall being stable in life .Not only the employees but also the families of the employees should be provided with welfare as mandated by the Department of Labor Protection and Welfare) Jobthai, 2017 .(This directive could be carried out as follows:

- 1 .Defining and developing a model of welfare
- 2 .Promoting, supporting, and implementing welfare arrangements
- 3 .Doing appropriate action or supporting the work of other relevant agencies

Labor welfare includes various examples. Jobthai) 2017 (investigated the HR implementations in various organizations by surveying more than 457 people nationwide on the topic of ‘Welfare provided by organizations to their employees .’The results of the survey showed the top 10 most popular welfares among employees: 1 (Holidays -legal leave; 2 (Social Security; 3 (Bonus; 4 (Overtime pay; 5 (Recreation activities; 6 (Uniform; 7 (Annual health checkup; 8 (Diligent allowance; 9 (Funds for special personal occasions such as weddings and ordination ceremonies; and 10 (Accident insurance.

3. CASE STUDY METHODOLOGY

The case study research method is used to deal with an actual event or everyday activity)Benbasat, I .et al, 2002 .(To understand the context of the incident in the case study research, qualitative data would be derived from various methods such as interview and observation)Hancock, D.R., & Algozzine, B., 2006 .(The detailed information gained from this case study involved eliciting in-depth information from two HR staff at Panviman Chiang Mai Spa Resort, Thailand .The research method is to collect the data by means of doing individual interviews with the head of the human resource department and the deputy head of the human resource department. They were invited to partake in the data collection to investigate and define the complexity of processes taking place through designing the chatbot.

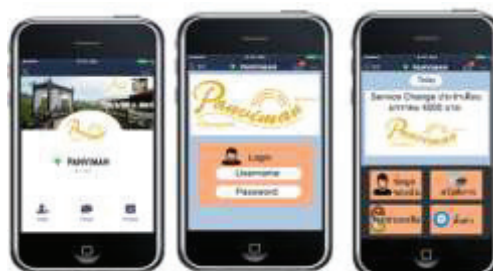
A chatbot is a technological innovation that uses artificial intelligence or AI. In the context of this research, the researchers define a chatbot as an automated chat program that is developed to simulate human conversation and be able to communicate and talk to humans in real-time. Not only can a chatbot send messages, but it can also communicate via voice-by-voice assistant application; for instance, Alexa and Siri. Chatbots can be embedded in applications or on websites. They work by creating conditions for user interaction in advance and chooses the appropriate dialogue for the context. A chatbot in this case study does not create new conversations on its own, but it will only choose conversations from the existing formats.

Based on the research problem as described above, an HR chatbot in LINE application was designed to answer questions and provide advice on employee welfare. The chatbot was named ‘@PANVIMAN’. Among the more or less 60 employees at the Panviman Chiang Mai Spa Resort, welfare includes accommodation, uniform, food, social security, service charge, annual holidays, staff discounts, and staff party. All of these were considered in designing the chatbot, which is discussed in more detail below:

1. @PANVIMAN chatbot

Hotel staff can search the name @PANVIMAN and add friends to access their specific information. After that, the users need to sign in for the first time and will be able to search for information, which includes ‘My Information’, ‘Welfare benefits’, ‘Help’, and ‘Settings’, as shown in Figure 4.

Figure 4. The design of @PANVIMAN chatbot



2. My information

The chatbot would show information from the hotel database where employees can find the staff information and the history of welfare information, aid, and settings within that year. The design is shown in Figure 5

Figure 5. The Design of my information menu



3. Welfare benefits

This menu includes providing information on welfare benefits such as accommodation, social security, service charge, annual holiday and leave and staff discounts as shown in Figure 6.

Figure 6. The Design of welfare benefits menu



4. Help

The users can request for help, such as problems with requesting leave, accommodation problems, and consulting staff issues or hotel problems as shown in Figure 7.

Figure 7. The Design of help menu



5. Settings

Settings menu is used to manage notifications such as enabling or disabling notifications and stop using the chatbot. The design is shown in Figure 8.

Figure 8. The Design of settings menu



4. RESULT

The results from the interviews show that it will be better if the chatbot can answer the information that is updated regularly. If using the chatbot, which is an automated response system, it will be able to help answer some basic questions, such as job applications. The user cannot ask other detailed information. If the system can record all detail information in the employee database, and the chatbot can retrieve the information from the database, it will save more working time for the staff in the HR department. The chatbot will be able to answer the same question repeatedly, updating information that changed regularly (accommodation, leave, holidays or other employee benefits). In addition, it may be more convenient to allow those who are interested in working with the hotel to use the chatbot and are able to ask the detail of job application. Although, the design of this program is good, it depends on the administration to allocate the budgets for supporting this program.

5. CONCLUSION

In conclusion, this case study addresses the need of HR and the design of a LINE chatbot application, @PANVIMAN, for Panviman Chiang Mai Spa Resort, Thailand. The chatbot contents and design were specifically developed to answer employee welfare-related FAQs and overall support HR-employee communication. The contents of @PANVIMAN LINE chatbot are as follows: 1) Employee information, and the history of welfare information, aid, and settings within that year; 2) Information on welfare benefits such as accommodation, social security, annual holidays/leave, service change, and employee discounts; 3) Help where employees can ask for work-related help or ask for advice by typing a reply message, which the chatbot will forward to the hotel administrator; and 4) The setting which manages notifications and termination of use. Overall, the database can be updated anytime and can be used for searching for information 24/7. With a user-friendly interface design, it is also programmed in a way that helps recognize the behavior of employees, such as in using social security services, requesting personal leave or days off each year, using employee discounts or providing assistance and listening to employee-related issues. In general, the effective management of human resources should realize the following principles: planning to increase or decrease the number of employees, rewarding employees in exchange for work, creating incentives to retain employees, being concerned with employees and encouraging employees to learn and use more technology. Chiefly speaking, the innovation that is designing the chatbot application for HR-related concerns in the hotel business industry can offer mutual benefits for both employers and employees—it can increase employee efficiency and drive overall hotel business growth and success.

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